INTRODUCTION
The enteric nervous system (ENS) contains intrinsic primary afferent neurons, interneurons and excitatory and inhibitory motor neurons.2,3,5,6,7 The gastrointestinal motility is the result of the coordination activity of smooth muscle cells, neurons of SNE and interstitial cells of Cajal.8 ATP and nitric oxide are the principal inhibitory neurotransmitters, which produce muscle relaxation1,3,4,5,6. Contractions are triggered by acetylcholine and tachykinins3.8,4,5.

OBJECTIVES
1. Determine if the purinergic and nitrergic components are involved in the inhibitory neurotransmission of the longitudinal muscle in different colonic regions.
2. Check if the presence of inhibitory neural tone exists in the longitudinal muscle.
3. Identify the receptor responsible for the noncholinergic contraction in the longitudinal muscle.
*Circular muscle strips are taken in order to be compared with the longitudinal muscle.

MATERIAL AND METHODS
The study was carried out with 15 CD1 mice. Longitudinal and circular oriented muscle strips from colon were studied using the organ bath technique (NANC conditions). Two protocols were performed:

PROTOCOL 1
L-NNA 1 mM
MRS2500 1 µM
GR159897 1 µM
GR159897 10 µM

PROTOCOL 2
L-NNA 1 mM
MRS2500 1 µM
GR159897 1 µM
GR159897 10 µM

RESULTS
Table 1. Data of spontaneous contractions of circular and longitudinal muscle from proximal, mid and distal mouse colon

<table>
<thead>
<tr>
<th></th>
<th>PROXIMAL</th>
<th>MID</th>
<th>DISTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROTOCOL 1</strong></td>
<td><strong>PROTOCOL 2</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>LT</strong></td>
<td><strong>LT</strong></td>
<td></td>
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<tr>
<td>Frequency (contractions/minute)</td>
<td>3,2±0,1</td>
<td>1,7±0,2</td>
<td>2,8±0,2</td>
</tr>
<tr>
<td>Amplitude (mg)</td>
<td>185±24</td>
<td>220±37</td>
<td>160±96</td>
</tr>
</tbody>
</table>

Data are expressed as mean±sem. *** Statistically differences between circular and longitudinal muscle layers. +++ Statistically differences between proximal, mid and distal colon muscle circular.

CONCLUSIONS
1. The inhibitory neurotransmission in the longitudinal muscle is nitrergic, whereas in the circular muscle there is a nitrergic/purinergic cotransmission.
2. There is no presence of the inhibitory tone in the longitudinal muscle. In contrast, the purinergic and nitrergic tone exists in the circular muscle.
3. The noncholinergic excitatory component is due to the tachykinins that act in the NK3 receptors of the longitudinal and circular muscle layers.

REFERENCES